



# Pharmacy Dispensing Units (PDUs): Improving Access to Chronic Medicines

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Reaching 90-90-90 in South Africa Part III: Best Practices and Innovations in Linkage,  
Treatment and Viral Suppression

May 31 - June 1, 2016

Southern Sun Hotel

Pretoria





*Treating Health Seriously*

### Our Vision

That every individual has ready access to quality medical services that prevent, treat, and manage HIV infection and associated diseases.

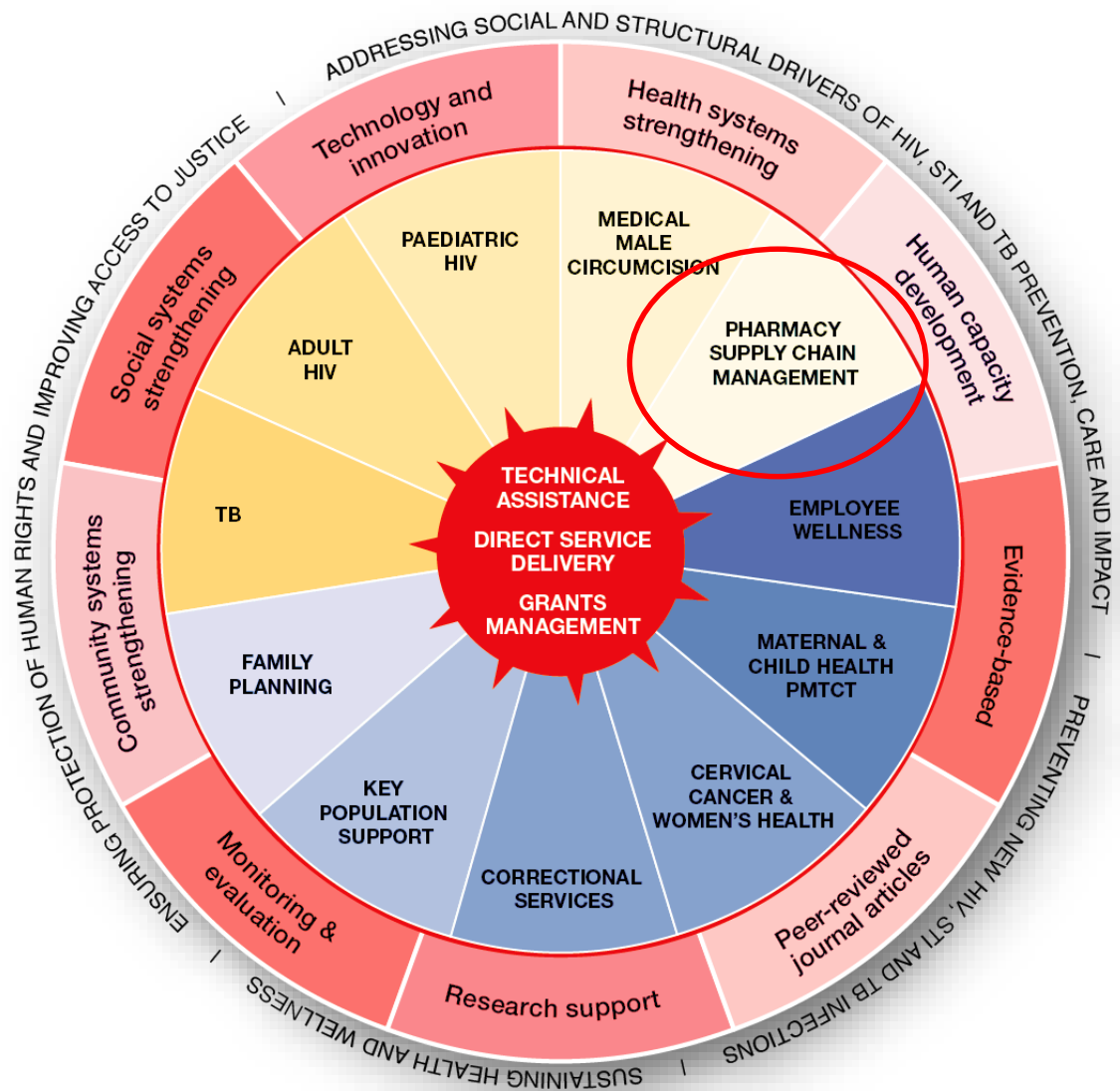
### Our Mission

To deliver and support quality clinical services, in Southern Africa, for the prevention, treatment, and management of HIV and associated diseases.

### Our Values

- Quality Care
- Responsiveness
- Innovation

## Programme delivery



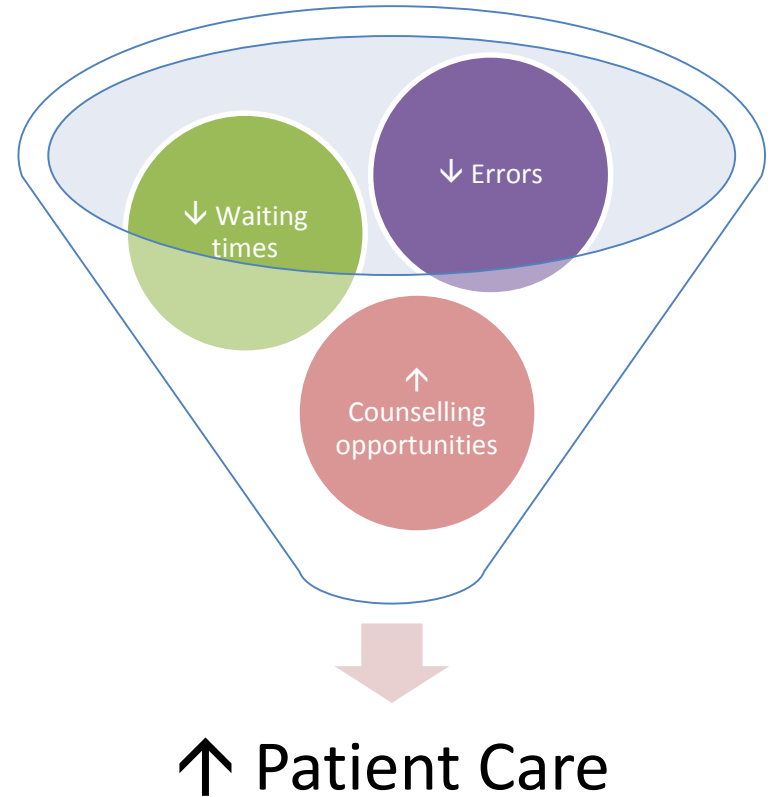
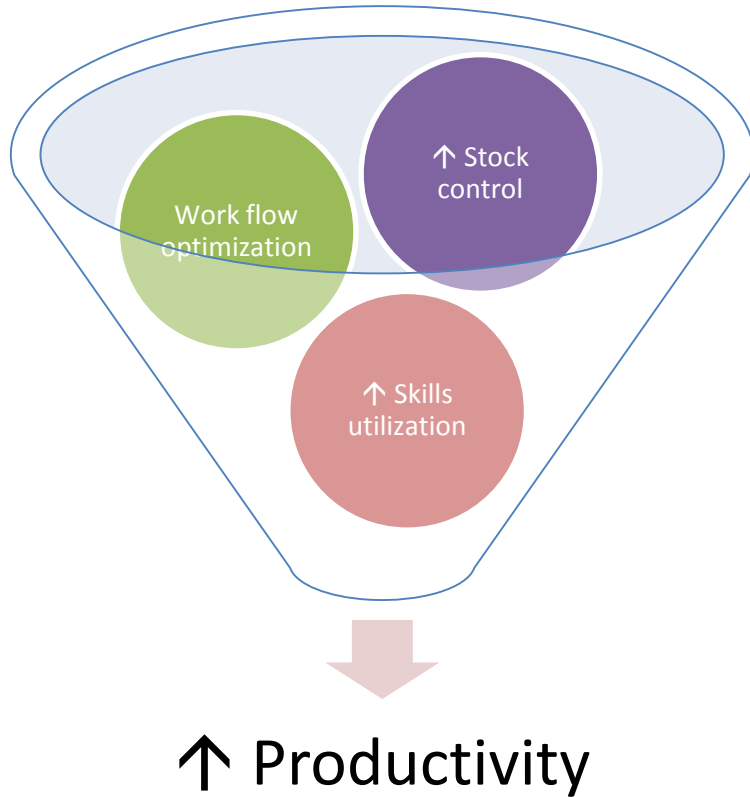
# Programme Technical Objectives

- Implementation of quality pharmaceutical services through focused TA to counterparts at all levels.
- Improved availability and access to health commodities through effective management systems and use of innovative technologies.
- Support training, capacity-building, research to support sustainable pharmaceutical services.
- Develop strategic collaborations and partnerships with national and provincial stakeholders to address key pharmaceutical priority areas

# Supply Chain Management Priorities

- Develop, evaluate and implement novel technologies, systems and initiatives for supply chain management.
- Monitor shortages and stock-outs, and improve PHC medicines and commodities management.
- Strengthen last-mile medicines distribution to support DMOC through district/sub-district and community-based initiatives.
- Implement strategies to decant stable patients requiring access to chronic medications (CCMDD activities and other initiatives)

# Context for Pharmacy Automation



# Helen Joseph Hospital Themba Lethu Clinic

## In-Pharmacy Automation Pilot Project

- High-volume HIV and TB treatment facility with 12000 patients in care.
- Previous pharmacy waiting times of 3.5-4.5 hours.
- **Key project objectives:**
  - Medicine availability and supply chain integrity
  - Improved operational efficiencies
  - Impact on pharmacy waiting times
- DoH approval to demonstrate the concept.
- Research and evaluation component.
- USAID grant for the pilot project.

# In-Pharmacy Automation

Helen Joseph Hospital (Themba Lethu Clinic)





# Themba Lethu Clinic Pharmacy





03/10/2013

\* INTERFACE PRESCRIPTION \*



\*02-551976\*



\*0255197620131003B\*

Patient File Id: 260379

## Prescriber Details

Prescriber: MOTLOUNG, Irene Ing

Address:

Helen Joseph Hospital  
Themba Lethu Clinic  
Private Bag X47  
2006, Auckland Park  
South Africa  
Phone: 011 489 1011  
Facsimile number: 5601 549

Qualifications: MBChB

HPCSA/SANC Number: MP 0377 309

## Patient Details

Date of Birth: 26/03/1979

Weight: 80 kg

List of allergies:

ALT: 40 U/L (25/10/2012)

Age: 34 yrs

Height: 190.1 cm

eGFR: 60 (25/10/2012)

Gender: Male

BMI: 22.14 kg/m<sup>2</sup>

Hemoglobin: 15.5 g/dL (25/10/2012)

Address:

2000, Johannesburg  
South Africa

TB: No

Cholesterol: 4.1 mmol/L (25/10/2012)

Pregnant: No

Triglycerides: 1.0 mmol/L (25/10/2012)

Phone (H):

Phone (M):

Other drugs:

## Prescription

Ezetimibe 10mg/Atorvastatin 20mg Tabletts, 1 Month(s), 3 repeats

Lamivudine 300 mg Tabletts, 1 Month(s), 3 repeats

Tenofovir disoproxil fumarate 300 mg Tabletts, 1 Month(s), 3 repeats

## Prescribers Notes

Dispenser  
Signature:

CDUO

FIRST ISSUE

REPEAT 1

REPEAT 2

REPEAT 3

H24

H24

H24

Dispenser  
Date:Prescriber  
Signature:

Date: 07/11/2013

# Key Outcomes of In-Pharmacy Automation

## Themba Lethu Clinic at Helen Joseph Hospital

- Reduction in pharmacy waiting times to less than 30 minutes (15 minutes for routine medication collection visits).
- Full stock control from bulk storage through to patient.
- Eliminated stock expiry and losses
- Improved pharmacy operational efficiencies and reporting
- Error-free prescription picking, labelling and dispensing
- Enhanced patient monitoring and counselling
- Specialised attention given to newly-initiated patients
- Increased pharmacist ward services at the hospital
- Reduction in pharmacy working hours
- Formal system for stock forecasting and quantification
- Reduced staff fatigue and burnout
- Improved patient satisfaction and experience

# In-Pharmacy Automation Scale-up

- High-Volume Hospitals:
  - Helen Joseph Hospital
- Tertiary and Academic Hospitals (Gauteng):
  - Steve Biko Academic Hospital
  - Chris Hani Baragwanath Academic Hospital
  - Dr George Mukhari Academic Hospital
  - Charlotte Maxeke Johannesburg Academic Hospital
- Others (Western Cape):
  - Groote Schuur Academic Hospital
  - Tygerberg Academic Hospital
- SADC Countries:
  - Engagement with Zambia and Botswana MoH

# Automation Design (Perspective View)

Steve Biko Academic Hospital



# Next Steps for Automation

## Out-of-Pharmacy Remote Automation Services

- **Addressing the HIV/AIDS epidemic:**
  - > 6.8 million Infections in SA
  - $\pm$  300 000 new infections annually
  - 3.4 million patients on treatment currently
  - Impact of new treatment guidelines
- **Chronic medication management:**
  - Priority need to decant stable patients out of facilities and enable more convenient chronic medication collection.
  - Need for integrated chronic medicine access models.

# Alternative models for chronic medication access

## Pharmacy Dispensing Units (PDUs)

- Practical, convenient, cost-effective and sustainable medication collection.
- Integration with provincial/district supply chain systems.
- Pick-up point for existing chronic medication initiatives (CCMDD, Adherence Clubs).
- Key chronic diseases (HIV, diabetes, CVD).
- Centralised information management systems.

# Pharmacy Dispensing Units

- South African innovation, designed and developed to meet the needs of the public sector environment.
- The PDU serves as both a central dispensing service and a pick-up point for chronic medicines
- Integrates Cloud-based information management and SMS reminder systems for patients.
- Supports counselling and dispensing services by direct pharmacist interaction via an audio-visual link.
- First system in the world that combines remote dispensing of medicines with telepharmacy operations through the integration and management of cloud based data systems.



# Pharmacy Dispensing Unit (PDU)

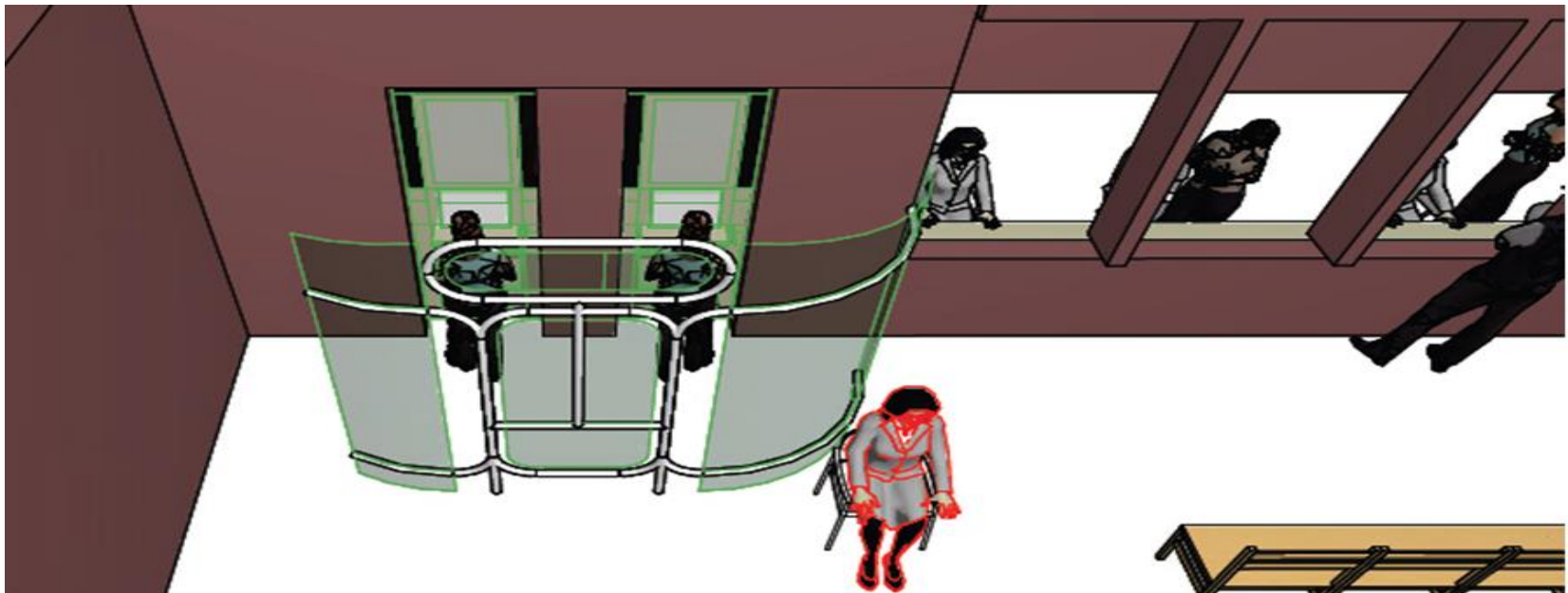
Themba Lethu Clinic



# Out-of-Pharmacy Automation

## Pharmacy Dispensing Units (PDUs)

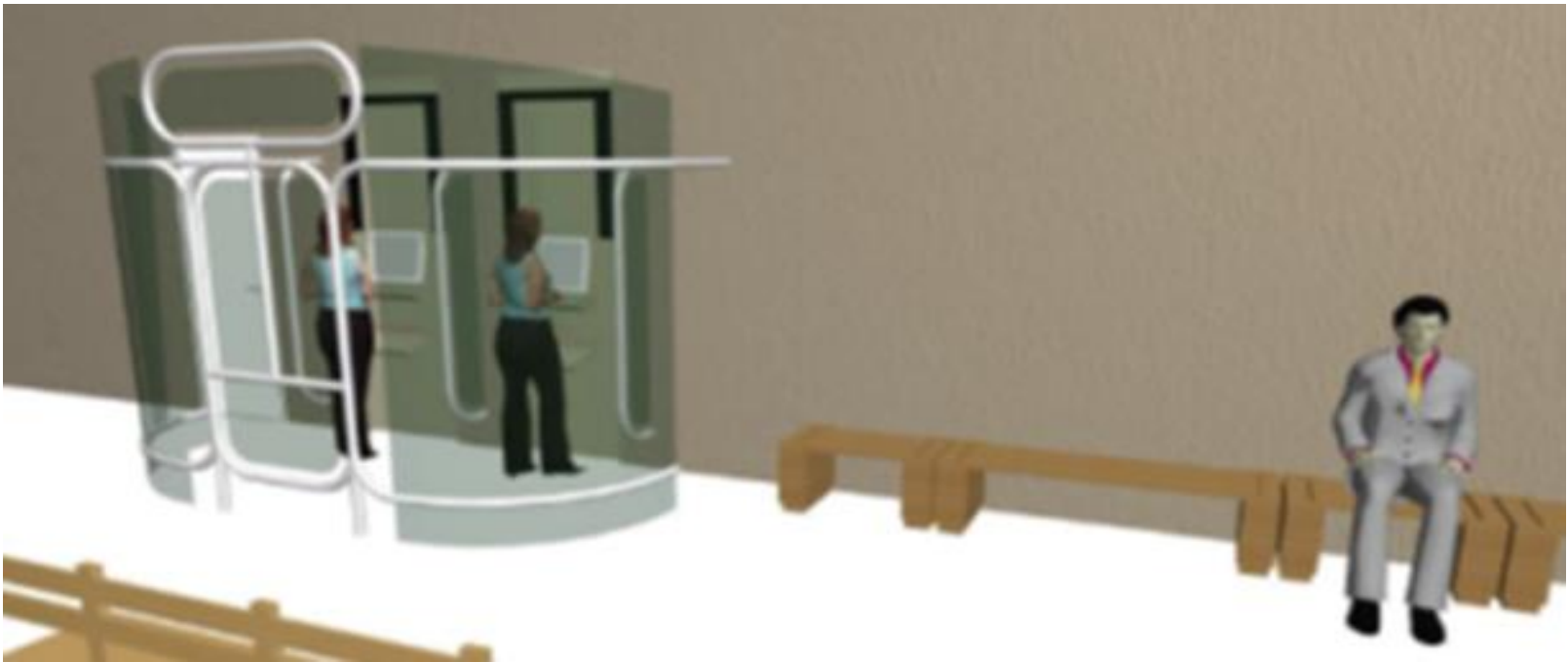
- Pick-up points are managed by on-site staff and provides access to a pharmacist via a video interface.
- Real-time medication reconciliation, reporting and accountability.
- All patients receive integrated communication through SMS reminders and follow-up for missed pick-ups.
- Stock control and information management meets required standards to eliminate expired stock and other losses.



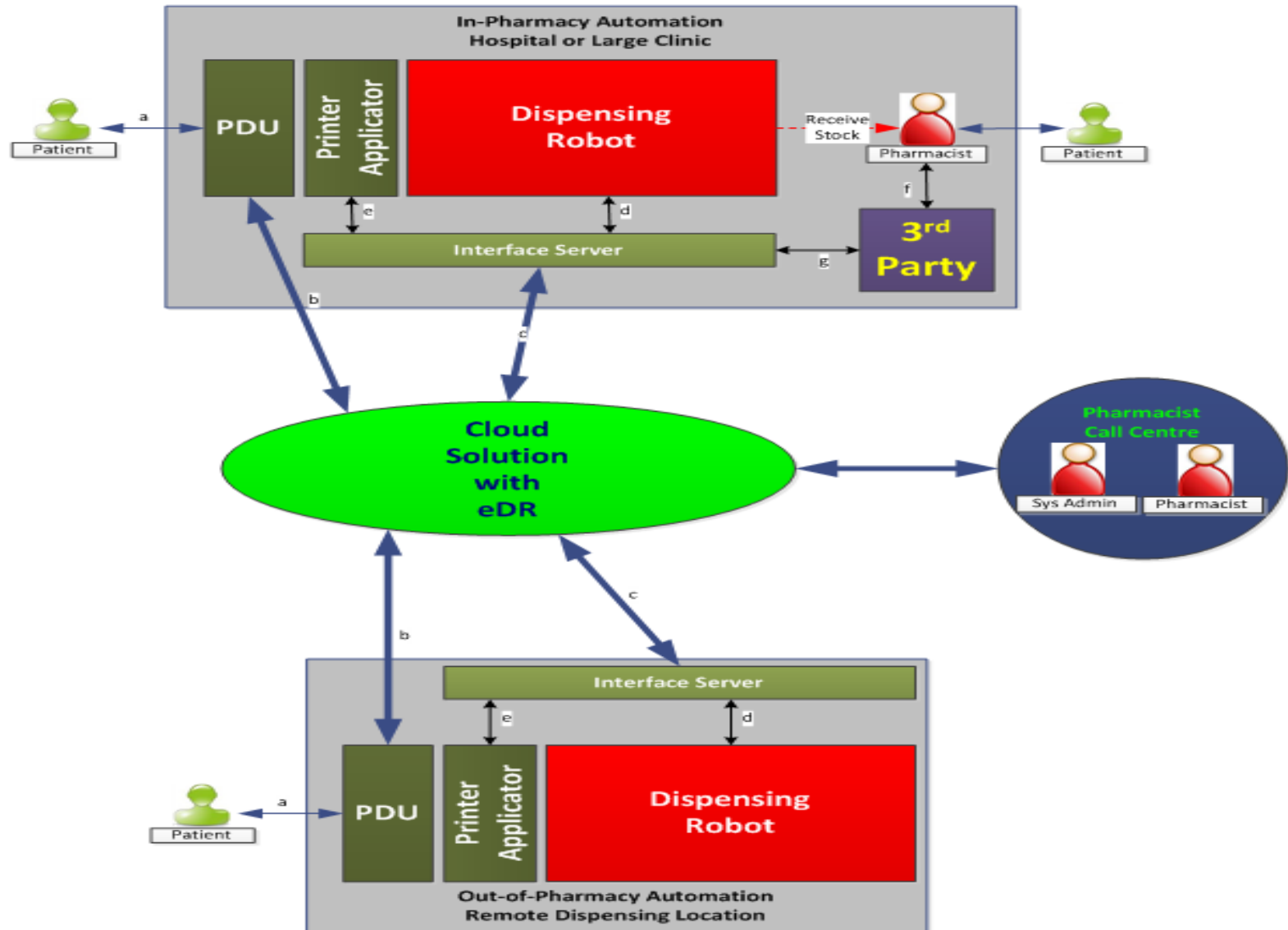
# Pharmacy Dispensing Units (PDUs)

## Additional Benefits

- System enables 24/7 medication collection for patients.
- Efficient medication collection process (3.5 minutes) and reducing patient queues.
- Chronic medicine solution for all chronic diseases.
- Data held in cloud, allowing patients to visit any collection point.
- Minimised patient costs.



# Solution Architecture



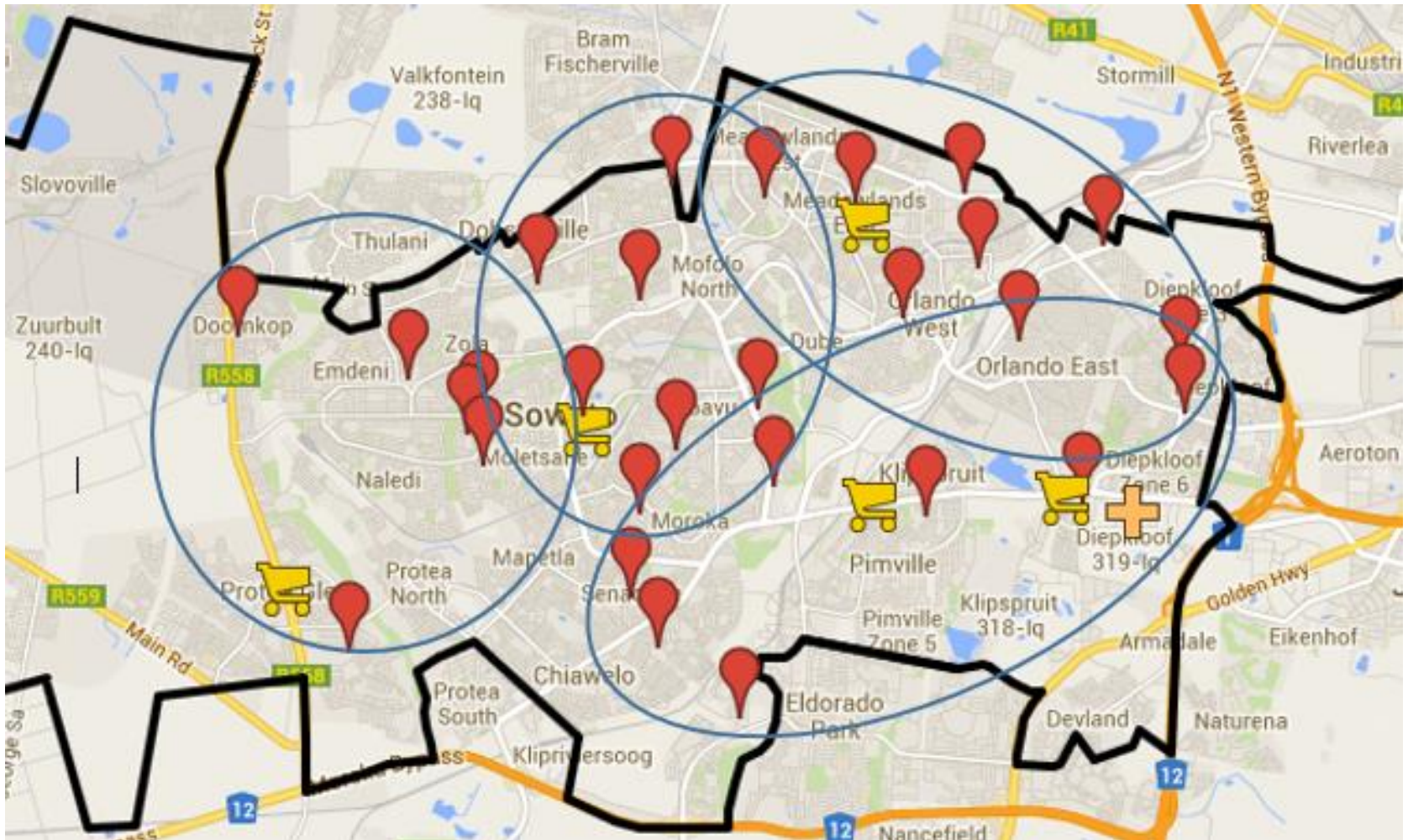
# Scale-up of PDU Initiative

## Chronic Medicines Access

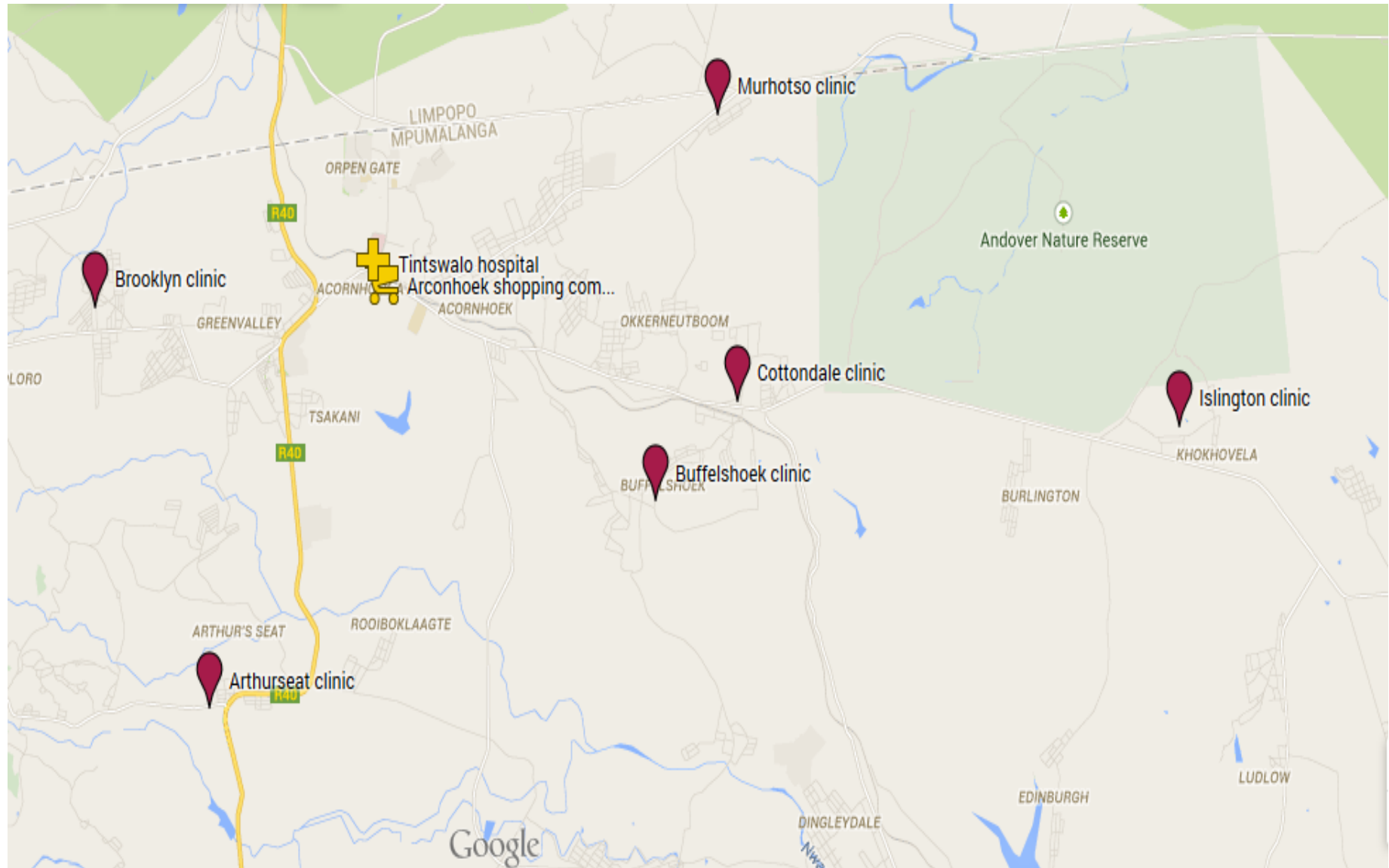
- **Department of Health:**
  - City of Johannesburg, Gauteng:
    - Four PDU sites in Gauteng (Soweto, Diepsloot, Alexandra)
    - Helen Joseph Hospital
  - Ehlanzeni District, Mpumalanga:
    - Bushbuck Ridge and Mbombela (Mpumalanga)
  - Others planned:
    - Engagement with Zambia and Botswana MoH
- **Funding Support:**
  - Gauteng pilot project:
    - USAID/PEPFAR
    - GIZ
    - Right to Care
  - Mpumalanga:
    - GFATM



## Region D – Soweto (2 PDU Sites)

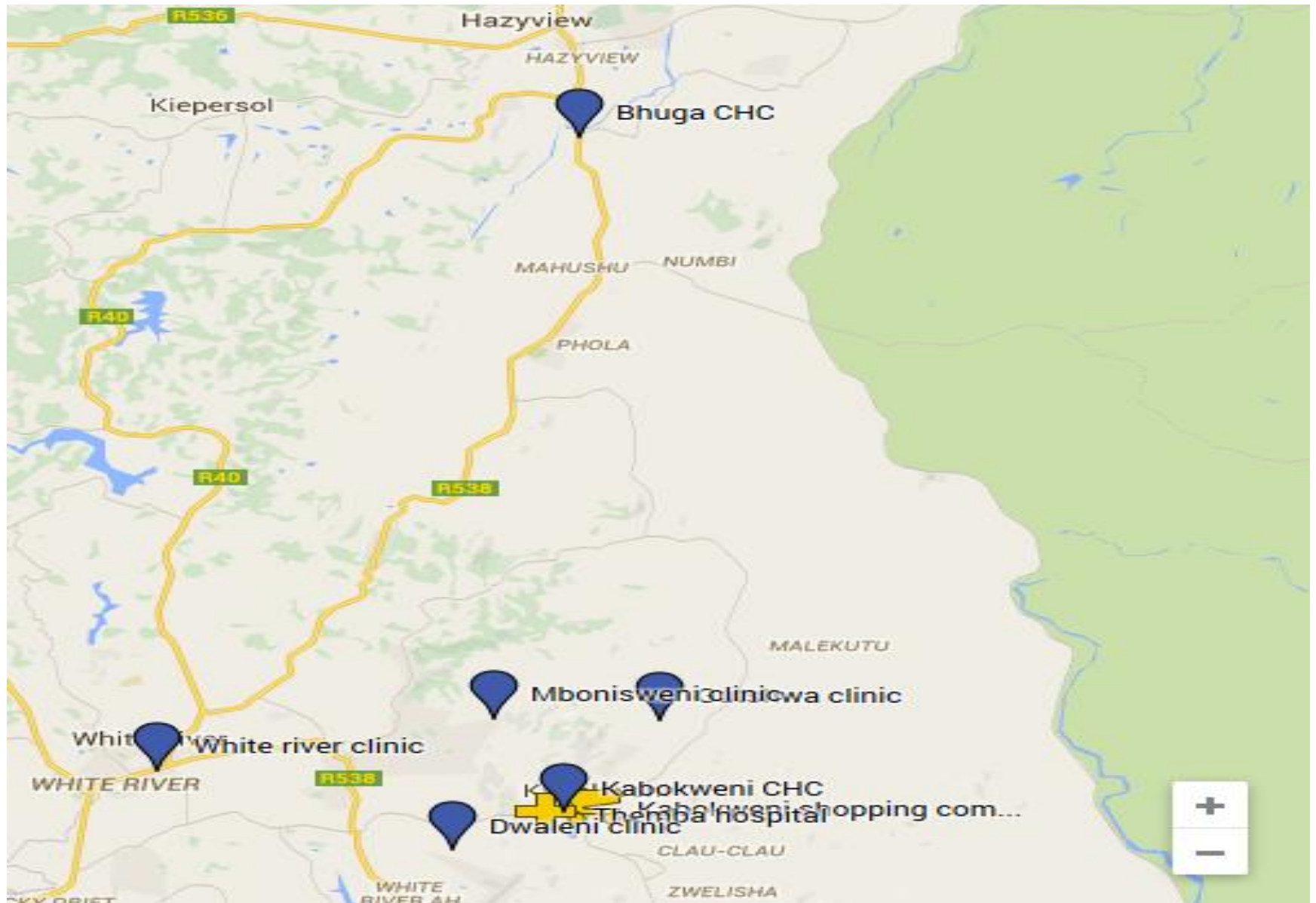


# Bushbuck Ridge





# Mbombela



# Engagement with SA Pharmacy Council

- Board Notice 50 (*In-Pharmacy Automation*)
  - Supported SAPC in developing minimum standards for in-pharmacy automation
  - Regulations in place since November of 2014
- Board Notice 49 (*Remote Dispensing Units*)
  - Supported SAPC in developing minimum standards for both public and private sectors
  - Expected regulations in place in 2016
  - Support for pilot evaluation of PDUs

# GPP Context



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**Thank You**

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